

Project Title:

Storm time ULF waves in the inner magnetosphere

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Project Information:

ULF waves in the Pc3-5 band (period = 10-600 s) play a fundamental role in the acceleration and transport of energetic particles in the magnetosphere during geomagnetic storms. When disturbances in the solar wind hit the magnetosphere they propagate through the magnetosphere as MHD ULF waves. The electric field associated with the waves then interacts with the pre-existing particle populations. Some of these particles are accelerated and transported. The importance of understanding these processes in the context of the Living With a Star Program is obvious since elevated flux of energetic particles is hazardous to human activity in space and to operation of spacecraft. Previous studies of storm time ULF waves were done primarily using data from geostationary satellites ground magnetometers. We will use electromagnetic fields measured by the elliptically orbiting CRRES spacecraft to investigate the spatial and temporal development of storm time ULF waves. Ground magnetometer data will be also used to investigate the spatial extent of the waves.

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Summary: no summary

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Summary: no summary

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Summary: no summary

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